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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/654,306      | 09/01/2000  | Donald E. Mosier     | 00CR104/KE          | 5633             |

7590 01/10/2003  
Rockwell Collins Inc  
Attn Kyle Eppele  
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Cedar Rapids, IA 52498

EXAMINER

KOVALICK, VINCENT E

| ART UNIT | PAPER NUMBER |
|----------|--------------|
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2673

DATE MAILED: 01/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/654,306

Applicant(s)

MOSIER, DONALD E.

Examiner

Vincent E Kovalick

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 November 2002.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

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### **DETAILED ACTION**

1. This Office Action is in response to Applicant's Amendment dated November 7, 2002 in response to PTO Office Action dated August 8, 2002.

The amendments to claims 1, 2, 6, 8, 9, 12, 13 and 15; the addition of new claims 21-22 and Applicant's Remarks have been noted and entered in the record.

Regarding Applicants remarks relative to claims 1, 8, 12, 21 and 22 reciting "a feature in which the row driving signal is modulated so that a period or frequency associated with one row is different from another row". This in a new limitation added to claims 1, 8 and 12, and included in new claim 21 and 22 and is addressed with the teaching of Ito et al. as set forth hereinbelow.

Applicant's arguments with respect to claims 1, 8 and 12 have been considered but are moot in view of the new ground(s) of rejection.

#### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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3. Claims 1-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bassetti et al. (USP 5,757,338) taken with Ito et al. (USP 6,252,573).

Relative to claims 1, 8, 12 and 21-22 Bassetti et al. **teaches** EMI reduction for a flat-panel display controller using horizontal-line based Spread Spectrum (col. 6, lines 13-67; col. 7, lines 1-8 and Fig. 7). Bassetti et al. further **teaches** an apparatus comprising: means for controlling a display (col. 6, lines 13-16; col. 8, lines 52-54 and Fig. 7); and means for buffering input data received from a data source provided to said controlling means (col. 6, lines 14-16); and said controlling means being adapted to provide a modulated driving signal to the display wherein at least one frequency component of the modulated driving single is attenuated by the modulation such that emanated electromagnetic emissions are reduced (co. 6, lines 13-14 and col. 8, lines 52-54); further still, Bassetti et al. **teaches** means for providing input to be displayed in the display to said controlling means (col. 8, lines 54-64 and Fig. 7, item 50), and input data providing means being adapted to provide a modulated input data signal to said controlling means to accommodate the modulated driving signal provided by said controlling means to the display (col. 8, lines 56-64; col. 9, lines 46-48 and 64-67; col. 10 lines 1-5 and Fig. 7).

Bassetti et al. **does not teach** means for controlling a display wherein the modulated row driving signal has a different period or frequency for one row than for another row.

Ito et al. **teaches** a driver method, and drive circuit and a display device for liquid crystal cells (col. 10, lines 49-67; col. 11, lines 1-67; col. 12, lines 1-21 and Figs. 15A, 15B and 15C); Ito et al. further **teaches** means for controlling a display wherein the modulated row driving signal

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has a different period or frequency for one row than for another row (col. 21, lines 32-67; col. 22, lines 1-10 and Figs. 15A, 15B and 15C).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to incorporate in the device as taught by Bassetti et al. the feature as taught by Ito et al. in order to reduce electromagnetic emissions

Regarding claims 2, 9 and 13, Bassetti et al. **teaches** said apparatus wherein the modulated driving signal provided by said controlling means is being a spread spectrum modulated signal (col. 8, lines 15-17).

Relative to claims 3, 10 and 16, Bassetti et al. **teaches** said apparatus controlling means comprising a controller structure (col. 8, lines 52-54 and Fig. 7).

Regarding claims 4 and 19, Bassetti et al. **teaches** said apparatus buffering means comprising a memory structure (col. 8, lines 61-64).

Relative to claims 5, 14 and 20, Bassetti et al. **teaches** an apparatus wherein said buffering means comprises a FIFO memory structure (col. 8, lines 61-64).

Regarding claim 6, Bassetti et al. **teaches** said controlling means comprising a controller structure, said buffering means comprising a FIFO memory structure, and the modulated driving signal provided by the controller structure being a spread spectrum signal (col. 8, lines 52-54 and 61-64, and col. 9, lines 46-48 and Fig. 7).

Regarding claims 7 and 11, it would have been obvious to a person of ordinary skill in the art at the time of the invention that the apparatus as taught by Bassetti, et al. is adaptable for

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application in an avionics environment in that it could be cast in a structure designed to be compatible with an avionics environment.

Relative to claim 15, Bassetti et al. **teaches** said apparatus further comprising means for providing input data to be displayed in the display to said controlling means (col. 8, lines 61-64), said input data providing means being adapted to provide a modulated input data signal to said controlling means to accommodate the modulated driving signal provided by said controlling means to the display (col. 9, lines 56-67; col. 10, lines 1-3 and Fig. 7).

Regarding claims 17 and 18, Bassetti et al. **teaches** said apparatus causing means comprising a modulating circuit structure; and controlling means comprising a controller structure (col. 9, line 46-67 and Fig. 7 ).

### ***Conclusion***

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. .

|                  |            |                 |
|------------------|------------|-----------------|
| U. S. Patent No. | 6,377,646  | Sha             |
| U. S. Patent No. | 6,057,809  | Singhal et al.  |
| U. S. Patent No. | 5,736,893  | Puckette et al. |
| IEEE Catalog No. | 94CH3347-2 | Hardin et al.   |

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5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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***Responses***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Vincent E. Kovalick** whose telephone number is **(703) 306-3020**. The examiner can normally be reached Monday-Thursday from 9:00 a.m. to 4:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Bipin Shalwala**, can be reached at **(703) 305-4938**.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

**or faxed to:**

**(703) 872-9314 (for Technology Center 2600 only)**

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

***Inquires***

7. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is **(703) 306-0377**.

  
Vincent E. Kovalick

  
**BIPIN SHALWALA**  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600